The Importance of Financial Management in a Volatile Economic Environment

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The purpose of this paper is to summarize the current financial management problems facing dairy farmers, review methods commonly used for setting the framework for farm management, and to then look at some specific actions that may help farmers to survive these volatile economic times.

The current situation is not new to the NZ dairy industry. Dairy Historian, AH Ward in the 1975 book "A Command of Co-ops", detailed a number of downturns through the early history of the industry (1922, 1927, 1934, 1958, 1966). In my 21 years of involvement in the NZ dairy industry, there have been a number of bad times, the most severe occurring during the economic re-structuring of the NZ economy in the mid-1980's. Every down turn has its' own "personality". The difference between the 1980's and today is that today we have a more market orientated economy. The NZ government is in a better financial position, world economies are more interconnected, the speed of communication has increased rapidly and there are an even greater numbers of salespeople and increased pressure on farmers to purchase products or change their farming system. From an international standpoint the world economy is suffering the "hangover" from a number of years of high growth and the liberalisation of banking standards.

The Problems

The main problems currently facing the NZ dairy industry revolve around:
1) increased input costs
2) reduced prices for products
3) the financial situation with our major cooperative
4) mistakes that many farmers might have made

Increased Input Costs

Although I am sure the input cost situation will be covered in more depth in other sessions of this conference, a simple table adapted from the DairyNZ magazine (Summer 2008), shows the following:

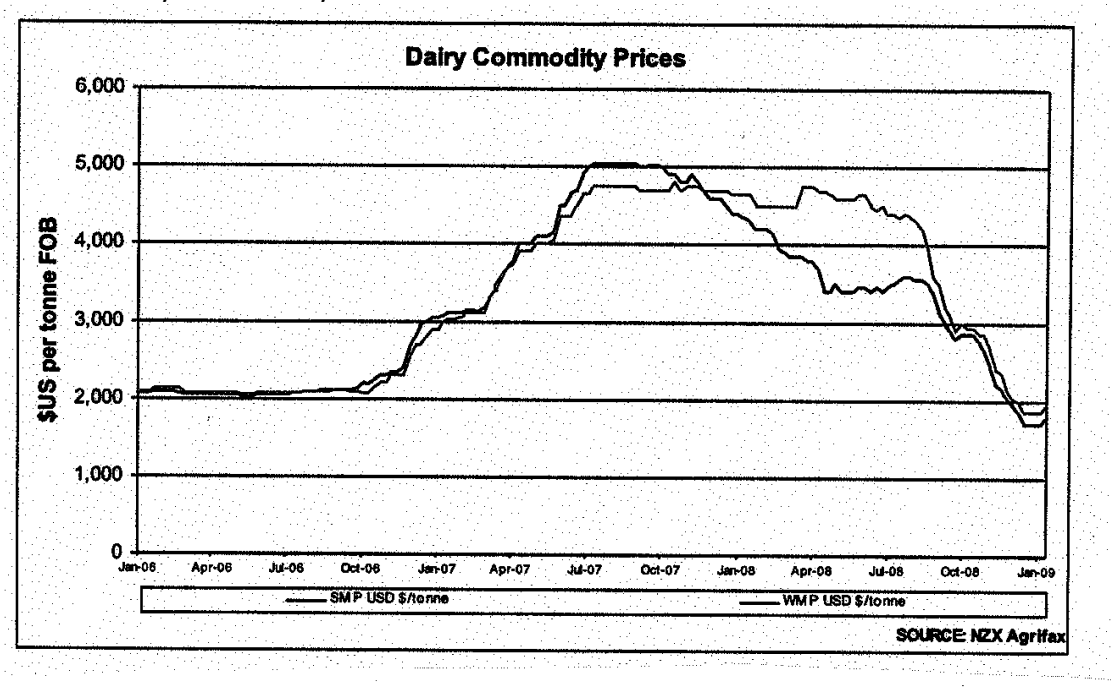
Table 1 Input price for NZ dairy industry

	2007/08	2008/09 PROJ.
Fuel	+40%	-10%
Feed & grazing	+16%	-2%
Fertiliser, lime, seed	+14.5%	+40%
Electricity	+15%	+8%
Ave. all costs	+10.2%	+5-6%

Reduced Product Prices

World commodity prices climbed spectacularly over the past few years and have crashed just as spectacularly in late 2008/early 2009 (see table 2). These prices led dairy companies to provide advance estimates of payments to farmers that became unsustainable as product prices crashed. From a farmer point of view, many of us committed to capital expenditure and higher feed costs based on these advance prices. When they dropped we were locked into spending money that was no longer available. The "knock on" effect of lower milk payout has been a decrease in livestock sales reducing cash flow further and reducing the equity levels of farmer's balance sheets through decreased livestock values.

Table 2 Dairy Commodity Prices



Fonterra's Financial Situation

The Board of Fonterra works under onerous conditions imposed on the company under the Dairy Industry Restructuring Act (DIRA) that enabled the formation of Fonterra. These include selling milk to competitors at the Commodity Milk Price and dealing with a Fair Value Share (FVS) that allows easy entry and access. So, unlike other co-ops where the capital investment in the co-op is basically locked in, Fonterra has to deal with the potential for rapid losses of capital. Additionally, the share is re-valued annually and in the past year has decreased in value.

The Fonterra Board has publicly stated that the debt to debt plus equity ratio over 60% is too high (Farmlink, March 2009), and there is no shortage of commentators who agree. These balance sheet problems have meant that in the past few months, the Board has taken actions to attempt to increase the equity of the co-op. These have included:

- eliminating the ability to supply milk on contract (except new supply, with shares purchased over three years),
- the removal of tactical pricing
- all suppliers must hold shares equal to their level of production
- retained earnings

As with the unsustainable advance estimates of price, these changes in capital requirements will have serious effects on many farmer's cash flows, as they are forced to buy shares and have the potential for further cash income reductions through company retentions.

Mistakes we might have made.

In our pursuit of higher productivity, higher profits and business growth many of us have committed ourselves to investments that may not work from an economic standpoint under lower milk prices. We have paid too much for land, have accumulated more expensive infrastructure (machinery and buildings) and adopted higher cost production systems. I'm sure that everyone's budget was sound when it was drafted — but extreme volatility has destroyed a significant number of budgets.

Phil Journeaux of the Ministry of Agriculture and Forestry (MAF) has recently reported that dairy debt had increased to $25.7 billion in June 2008. MAF's survey for 2005-06 showed that the cost of debt servicing ranged from less than 50 cents/kg milksolids to $3.36/kg milksolids, with 20% of dairy farmers owing 73% of the total debt (Exporter May 2009). Accountant James Cooke of RJ Preston Ltd. has stated that debt service/kg of ms has increased from 80 cents in 2000 to $1.49 in 2008 (Countrywide May 2009).

We also must realize that in demanding that Fonterra pay us the highest price possible for our milk, we have contributed to the poorer financial position of the company. In other words more of the payout should have gone to strengthening the cooperatives balance sheet.

Farm Management Stuff (a framework)

A brief review of some farm management principles may be helpful in plotting a course to move forward.

Farming Management is all about:

Planning
Implementation
Monitoring

Planning

A number of "tools" to look at the farming business will be familiar to most farmers and are part of the planning process. These tools should stimulate farmers to think about why they farm and what they want to achieve. Below, I have listed some of the strategic techniques that I use to analyse my business.

A **statement of objectives** or mission statement should set the philosophy under which the farm operates. These objectives need to be re-visited at least annually as our situations change. In my early years of farming, my statement of objectives was:

> "To make a living and grow the wealth of my family"

The most current statement is:

> "To operate a farming system that meets established financial parameters, while being operated in a sustainable fashion and providing opportunities for young farmers to enter the industry"

2) **Goals** can then be established to help meet this objective statement. I like to set goals that are for 1 year, 5 years and 10 years. In establishing goals, it needs to be remembered that they should be specific, realistic, require additional effort, have deadlines, be measurable and are flexible.

My goal for this year is to finish the conversion of the new farm, to reduce debt by the $400,000 now required to buy the first years shares, and to cover start up costs for the conversion. Previously, I had budgeted for these funds to come from the farm's cash flow.

Over the next five years, I plan to re-develop the irrigation on the original farm through the installation of a storage pond, and the conversion of border dykes and K lines to pivot irrigators. Additionally, I want to achieve a 5% cash return on capital, maintain a debt to asset ratio of 35%, achieve debt service as a percentage of gross farm income under 25%, and to provide free cash of at least $200,000 for capital expenditure and living.

In the next five to ten years we will continue to grow the business (but at a much slower rate), bring children into the business (if they want), incorporate new technology as it becomes practical, and take funds out of the business to pursue other interests.

The statement of objectives and the development of goals can only occur if the farmer understands his property/business. A **SWOT analysis** will allow a farmer to establish realistic goals and objectives. A brief SWOT analysis for my farming system is as follows:

Strengths: very good water rights, light soils that perform well in spring and autumn, ability to lease surrounding land for wintering, excellent sharemilkers, location

Weaknesses: small dairy shed on original farm, stony soils with low water holding capacity, the original farm is divided by roads and involves long walks for cows

Opportunities: increase irrigated areas through using water more efficiently, adding value to milk, invest capital to make farm more labour friendly

Threats: bio-security, regional council interference, attitudes of rest of NZ to farming, climate, world trade issues

Implementation

The implementation of plans in the present economic environment needs to be built around cash flow budgeting. More specifically, the development of your plan needs to revolve around the farming system you have adopted and an understanding of your cost of production and what milk price you need to receive to "break even".

Over the past 20 years, the need to "add value" has been a recurring theme of the industry. However, I believe we are still dependent on the sale of commodity products for 85% of our sales (however, with a large range of specifications, one could argue that we produce value add commodities). Accepting that the NZ dairy industry is basically a commodity producer; then we have to be extremely aware of our cost of production. Incidentally, a study by Lincoln graduate student Adam McCall, showed that reducing the cost of production is an acceptable method for measuring productivity increases on farms.

Determining the cost of production in the dairy industry is reasonably straight forward. It is simply identifying your farm working expenses and dividing them by the kilograms of milk solids that you expect to produce. Table 3 shows the cost of production for the Lincoln University Dairy Farm (LUDF) based on preliminary budgets for next season. Although owner operators will be able to make a direct comparison to the LUDF, sharemilkers and farm owners with various versions of sharemilkers will have different numbers. For instance with a 50/50 sharemilker, a variable order sharemilker and a runoff, my share of the cost of production for the total operation will be $1.60 next year (and is comparable to no one else).

Table 3. Proposed cost of production for the LUDF (2009-10)

	2009/10 total $	2009/10 $ per cow	2009/10 per kg ms	2008/9 per kg ms
administration	23,000	34.80	0.08	0.08
animal health	43,500	65.90	0.16	0.17
breeding	39,500	59.80	0.14	0.17
electricity	19,000	28.80	0.07	0.06
employment	212,600	322.10	0.76	0.90
feed	62,600	94.80	0.22	0.35
silage making	16,500	25.00	0.06	0.03
heifer grazing	105,306	159.60	0.38	0.48
wintering	107,650	163.10	0.38	0.41
fertiliser	134,000	203.00	0.48	0.61
freight	2,500	3.80	0.01	0.01
irrigation	60,000	90.90	0.21	0.21
rates & ins.	14,745	22.30	0.05	0.06
regrassing	6,750	10.20	0.02	0.05
R & M	35,000	53.00	0.13	0.13
shed expense	11,000	16.70	0.04	0.04
vehicles	22,000	33.30	0.08	0.07
weed & pest	1,908	2.90	0.01	0.01
accommodation	20,000	30.30	0.07	0.08
Total	**937,559**	**1,420.54**	**3.35**	**3.92**

Another measure of your situation is to determine your "break even" price, or the price that you need to receive from your dairy company plus other income such as livestock, on a per kg of milksolids basis. When you consider the break even price, you also need to include other cash outflows that are not farm working expenses. These include:

Interest
Tax
Drawings
Capital expenditure (development, shares, machinery, buildings)

Once again, everyone's breakeven price will be different. Since I work off the farm, I do not need to take drawings. Additionally, the tax losses carried forward from the conversion of the new dairy means that tax does not need to be included for the coming season. Table 4 outlines the price that I need to receive from Fonterra for my combined operations.

Table 4. Breakeven analysis for Alderbrook Farm (2009/10)

Cost of Production (farm working expenses/kg ms)	$1.60
Debt service	.88
Drawings	0 live off salary
Tax	0 losses carried forward
Capital expenditure & development	0
Total	$2.48

If you divide $2.48 by 60% (share of blended milk check that I receive — 50% and 74%), then the breakeven price = $4.13. If livestock sales on the variable order farm are $50,000, the breakeven for the total operation is reduced by 10 cents. I have not included purchasing Fonterra shares, due to the uncertainty surrounding price and production, but they will be a capital expenditure.

Survival Strategies

For those of us with cash flow problems over the next year, there are a variety of ways to try to improve the situation. These fall into the broad categories of increasing your level of income, reducing costs, managing debt obligations and tax planning. The ideas listed below have been gained through my own experiences and recently published articles (see references).

1) Income enhancement

- Are you feeding your cows well enough to achieve at least 350 kg ms/cow?
- How many "in milk days" do you average?
- Do you achieve in excess of 90% pregnancy rates, so that you can cull on production and sell budget cows rather than culls?
- Do you keep a high percentage of calves alive and achieve the maximum sales price for them?
- Has one of the partners considered off-farm employment?
- Have you considered selling colostrum ? — can mean up to $40/cow.
- Are you utilising all pasture grown? — an average farm wastes 30% of pasture.

2) Expense control

Staff

- How often do you milk? — is there potential to replace some labour

Animal health

- Do you need all of the vaccinations that are performed?
- Do you need all of the animal health remedies used?
- Do you need to dry treat the whole herd?
- Do you need all of the reproductive technologies practiced?

Herd Improvement

- Do you need four herd tests?
- How long do you AB? — there is probably not going to be a strong market for surplus heifers for a few years
- Are you taking full advantage of Minda Pro? — Minda Link is cheaper

Fertiliser

- Do you prepare a nutrient budget and only put on the fertiliser that is necessary? Some may be able to let Phosphorus levels to drop for a short term—however, Baker and Associates says that for every years fertilizer saved in the 1980's, it took three years to recover
- Are you aware of the law of diminishing returns with Nitrogen application?

Power costs

- Are you taking advantage of night and week-end rates?
- Do you measure soil moisture levels? — meters have allowed us to reduce the hours of watering in spring and autumn.
- Have you adopted new technology which will reduce power costs? — but, be aware of the capital costs to install.

Re-grassing

- Have you looked at the "Pasture Renewal Calculator" to determine the payback? — ours is two years.
- Have you compared the cost of direct drilling to full cultivation?
- Have you looked at older seed varieties that are often cheaper? — some scientists say that it is the process of re-grassing, not the latest variety that achieves the increased growth.
- Have you tried lower seeding rates?

Repairs and maintenance

- Do you have a weekly maintenance program? — grease and oil are cheap.
- Are breakdowns attributable to staff fatigue?
- Can maintenance be put off? — prioritise, look at options like small trucks vs. motorbikes
- Can you share machinery between farms?

Feed costs

- A good rule of thumb is 5% of payout, or about 25 cents per kg of Dm in today's market. However, there are times (shoulders of season) when higher costs can be justified.
- Do you know the true costs of your supplements?
  - Cost of feed
  - Cost of feeding out
  - Utilisation
  - Responses

Heifer rearing---do you need to raise so many? What are your costs to rear?

- With the increased cost of rearing heifers, an option may be to rear less calves and carryover the high PW, young empties — can also be a way to reduce inductions. However, you have to be aware of the potential to reduce the fertility of the herd. Our carryover cows out produced the 2 year olds by 100 kg ms/cow — but 20% did not get back in calf.

3) Managing debt

- Do you have too much debt? — some rules of thumb are:
  - The debt to asset ratio needs to be under 50% (by comparison, U.S. farming debt to asset ratios are 9.1%).
  - Debt service needs to be less than 25% of gross farm income.
  - Debt per kg ms should be under $1.30 when the milk price is $5.20

- The term de-leveraging is being used a lot at the moment. It means:
  - Can you pay down debt?
  - Can you introduce more capital? — either borrowed or equity investment
  - Is there the potential to sell assets to reduce debt?

- Repayment structures:
  - Are you able to change to interest only payments?
  - Have you taken advantage of current lower rates — floating, fixed or swaps
  - Can you capitalise "hard core" overdraft debt to reduce interest rates?

4) **Tax planning** — your accountant can be your "best friend" in these situations.

- Can you make changes to provisional payments?
- Is there potential to reduce livestock tax through changing schemes?

Monitoring

Monitoring of your activities is even more critical in times of volatility. Not only should you be monitoring the usual aspects of pastures and stock, but you must be aware of what I like to call the "six environments". This includes finance/economics, the natural environment, the political/legal environment, the marketing environment, the labour environment and the risk environment.

On the financial front, I have been looking at my cashflow and five year budgets several times per month. A very good example of financial monitoring is the LUDF variance report available in the "finance" section at www.siddc.org.nz. The Dairy Database and some commercial accounting programs provide additional sources of benchmarks.

To monitor the other environments requires reading, talking to other farmers, using consultants, attending discussion groups and focus days, etc. A paper presented at the International Farm Management Association Congress in Brazil in 2005 by Verissimo and Woodford, investigated the behaviours of six top performing sheep and beef farmers on the South Island. Amongst their findings were that these farmers were "information rich', reading an average of an hour per day. They participated in discussion groups, they were passionate about farming, visited other farms, benchmarked and tended to associate with other high performing people.

Final Comments

I have been told that an ancient Chinese curse is: **"May you live in interesting times".** I think we would all agree that we live in interesting times. A potential downside is the stress that can occur. It is important to recognize stress in yourself or in your loved ones and workers. Common signs of stress are:

Physical — fatigue, increased illness, nervousness, weight change

Behavioural — trouble sleeping, changes in appearance, missing deadlines, routines break down, difficulty concentrating

Relationship — reduced tolerance, unhappiness, mood swings, powerful emotions surface more often, development of a negative attitude

Suggestions for managing stress include: maintaining a support system, learning methods to relax, having clear and realistic goals, and most importantly — asking for help when you need it. Fonterra field staff can point you in the right direction if stress is becoming a concern.

However, on a more positive note, times of volatility also can create great opportunities. I have great faith in all of you as dairy farmers — you work hard, you take risks, you innovate, you make a huge contribution to the NZ economy. We need to remember that not only our generation, but the generations before us who have survived many similar downturns.

I think a good way to end is to consider the following quote from Churchill,

"A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty"

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